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GEOGRAPHIC MEMORANDUM

ROAD AND RAIL BRIDGES ALONG THE NORTH KOREAN BORDER

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CENTRAL INTELLIGENCE AGENCY

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W A R N I N G

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ROAD AND RAIL BRIDGES ALONG THE NORTH KOREAN BORDER
(according to information available as of 31 January 1958)

Explanatory Notes: Areas are listed from west to east insofar as possible. All railroads are standard gauge (4' 8-1/2") unless otherwise indicated. All measurements are approximate.

Yalu River Crossings

Area	Identification	Location	Function and Status	Construction
Sinuiju (40°06'N-124°24'E) 4 of the 5 bridges in area serviceable. Provide principal rail and road connections between W Korea and S Manchuria; also provide access for An-tung region to deepwater ports at Yalu River mouth.	1. Sinuiju/An-tung Old Combination Rail and Road Bridge (probably unserviceable)	Farthest downstream crossing of Yalu River; between central parts of the 2 cities.	Originally (1911) carried single-track railroad with 9' cantilevered footwalk on either side; converted (between 1933 and 1943) to 1- or 2-lane plank-deck highway bridge with railroad on standby basis; 1 lane probably reconverted to railroad before 1950; heavily damaged 1950-51; unserviceable May 1956.	Built 1909-11; reinforced 1913; length 3,300'; width 30'; 12 simple steel through truss spans (6 at 299' and 6 at 205') and 1 steel swing-span (at 306'); swing-span converted to permanent span in 1935; 18' above water; 12 masonry-faced concrete piers; 2 concrete abutments.
	2. Sinuiju/An-tung New Combination Rail and Road Bridge	150' upstream of Bridge 1; between central parts of the 2 cities.	Originally (1943) carried double-track railroad; 1 track converted to highway during Korean War; Sinuiju side damaged 1950-51; in service May 1956 as combination rail and highway bridge.	Completed 1943; length 3,100'; width 30'; 6 suspension-supported double-Warren steel through truss spans (at 299') at An-tung end and 6 double-Warren steel through truss spans (at 205') at Sinuiju end; 23' above water; masonry-faced concrete piers and abutments.
	3. Sinuiju/An-tung Rail Bridge: Bypass West	2 miles upstream of Bridge 2; between Hadan-dong (40°08'N-124°24'E) and N Antung.	Carries single-track railroad; serviceable July 1954.	Completed during Korean War as bypass of urban area; length est. 1,375; 28 wooden spans; 8' above water.

Area	Identification	Location	Function and Status	Construction
	4. Sinuiju/An-tung Rail Bridge: Bypass East	1.8 miles upstream of Bridge 3; between Sosang-ni (40°09'N-124°27'E) and T'ai-p'ing-chieh.	Carries single-track railroad; serviceable July 1954.	Completed during Korean War as bypass of urban area; length est. 3,280'; 67 steel beam spans; 33' above water; actually 2 bridges with intervening island.
	5. Uiju/Ma-shih-t'ai-t'un Road Bridge	W of Uiju (40°12'N-124°32'E); 4.7 miles upstream of Bridge 4.	Carries 2-lane highway; serviceable October 1952.	Completed during Korean War; length est. 1,548'; width est. 24'; concrete.
Sup'ung Dam (40°30'N-125°05'E) 3 serviceable bridges provide rail and road connections between Sup'ung power complex and S Manchuria; also provide alternate trunk route for rail traffic between W Korea and S Manchuria.	6. Ch'ongsongjin/ Ch'ang-tien-ho-k'ou Old Road Bridge (probably destroyed)	11 miles downstream of Sup'ung Dam; between Ch'ongsongjin (40°24'N-124°50'E) and Ch'ang-tien-ho-k'ou	Carried 1- or 2-lane secondary highway; destroyed during Korean War (before April 1951); later status unknown.	Length est. 1,500' with overwater distance of 1,000'.
	7. Ch'ongsongjin/ Ch'ang-tien-ho-k'ou New Road Bridge	1/2 mile upstream of Bridge 6; between Ch'ongsongjin and Ch'ang-tien-ho-k'ou	Carries 2-lane secondary highway; serviceable October 1952.	Completed during Korean War; length 1,708'; width est. 18'; concrete.
	8. Namsan-ni/ Ch'ang-tien-ch'eng Rail Bridge: South	8.5 miles downstream of Sup'ung Dam; between Namsan-ni (40°27'N-124°53'E) and U/I Manchurian village.	Carries single-track railroad; serviceable July 1954.	Probably completed during Korean War; length 2,925'; wooden; wood crib piers.

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Area	Identification	Location	Function and Status	Construction
	9. Namsan-ni/ Ch'ang-tien-ch'eng Rail Bridge: North	1.8 miles upstream of Bridge 8 and 6.7 miles downstream of Sup'ung Dam; between Namsan-ni and Manchurian shore.	Carries single-track railroad; serviceable July 1954.	Length 1,994'; 25 steel deck plate girder spans (24 at 65' and 1 at 58'), all 53' above high water; 2 steel through truss spans (at 188'), 28' above high water.
	10. U/I Road Bridge (unconfirmed)	Vicinity of Sup'ung Reservoir.	Submerged highway bridge reported March 1956.	No details.
Manp'o (41°09'N-126°17'E) Serviceable rail bridge links NC Korea with S Manchuria; also provides alternate trunk route for through rail traffic between W Korea and S Manchuria.	11. Manp'o/Chi-an Rail Bridge (probably destroyed)	1.2 miles downstream of Bridge 12; between W Manp'o and Manchurian shore.	Carried single-track railroad; destroyed during Korean War (before spring 1951); later status not clear.	Completed 1941; length est. 1,400' with overwater distance of 950'; probably steel.
	12. Manp'o/Chi-an Rail Bridge	W of Manp'o; between W Manp'o and Hsia-yang-yü-t'ou.	Carries single-track railroad; serviceable July 1954; existence confirmed April 1956.	Completed 1939; length 1,925'; 17 steel deck plate girder spans (at 80' x 13') and 3 steel through truss girder spans of Type "G" or Ramten-Traeger Type (at 150' x 19'), all 16' above water; 19 masonry piers and 2 abutments; earth fill approaches 1,500' in length.
	13. Manp'o/Chi-an Rail Bridge (unconfirmed)	Vicinity of Manp'o	Single-track railroad bridge; source of information July 1954 map.	No details.
	14. Manp'o/Chi-an Rail Bridge (unconfirmed)	Vicinity of Manp'o	Single-track railroad bridge; source of information July 1954 map.	No details.

Area	Identification	Location	Function and Status	Construction
Samgang-dong (41°22'N-126°30'E) Rail bridge links well-populated valley regions on opposite sides of river.	15. Samgang-dong/ Hu-lu-t'ao Rail Bridge (probable)	S of Samgang-dong on Yalu River meander; between Samgang-dong and Hu-lu-t'ao.	Carries single-track branch railroad (from Manp'o) to nearby Chinese terminus; source of information 1954 map.	Completed before 1950 to serve Yalu dam project; actually 2 bridges separated by sandy island with est. width 1,100'; combined lengths est. 600'.
Chunggangjin (41°46'N-126°52'E) Serviceable road bridge connects Korean towns of upper Yalu basin with E Manchurian railhead at Lin-chiang.	16. Chunggangjin/ Lin-chiang Road Bridge	1.5 miles NE of Chunggangjin; between NE Chunggangjin and Lin-chiang.	Carries 2-lane primary highway; existence confirmed November 1952; appeared on April 1956 map.	Completed c. 1938; length est. 1,470'; width est. 20'; concrete; est. 24 concrete piers.
Sin'gap'ajin (41°25'N-127°46'E) [No evidence of any bridges in vicinity.]				
Hyesan (41°24'N-128°10'E) 2 serviceable road bridges link relatively isolated Manchurian region with NE Korean railhead at Hyesan.	17. Hyesan Central/ Ch'ang-pai Road Bridge (probably serviceable)	N of Hyesan; between N Hyesan and W Ch'ang-pai.	Carries primary highway; severely damaged fall 1950; reported serviceable November 1955.	Length est. 350' with overwater distance of 200'; probably wooden.
	18. Hyesan East/ Ch'ang-pai Road Bridge (probably serviceable)	1/2 mile upstream of Bridge 17; between E Hyesan and S Ch'ang-pai.	Carries highway; severely damaged fall 1950; reported serviceable November 1955.	Length est. 300' with overwater distance of 160'; probably wooden.

Tumen River Crossings: China

Area	Identification	Location	Function and Status	Construction
Upper Tumen Region (W of 129°00'E) 11 road bridges serve local needs in relatively isolated valley region immediately upstream of confluence of Tumen with 2 major tributaries.	19a. Hongam-dong	42°02'N-128°45'E	Local road bridge; appeared on 1951 map.	Length est. 150'; probably wooden.
	b. Sam-dong	42°02'N-128°49'E	2 local road bridges; appeared on 1951 map.	do
	c. I-dong	42°02'N-128°50'E	do	do
	d. Sangil-tong	42°01'N-128°52'E	do	do
	e. Hail-tong	42°01'N-128°53'E	do	do
	f. Sangsa-dong	42°05'N-128°57'E	Local road bridge; appeared on 1951 map.	do
	g. (W of) Samsang-dong	42°05'N-129°00'E	do	do
Musan (42°14'N-129°13'E) (No evidence of any bridges in vicinity.)				
Hoeryong (42°25'N-129°45'E) Serviceable road bridge connects principal highway of NE Korea with Yen-chi region of SE Manchuria; also links Yen-chi region with NE Korean railhead at Hoeryong.	20. Hoeryong/ Hung-ching-tung Road Bridge	1.3 miles NW of Hoeryong; between N Hoeryong and Hung-ching-tung.	Carries primary highway; serviceable July 1954.	Length 368'; deck plate girder spans; concrete surface.
	21. Hoeryong Road Bridge (destroyed)	2 miles downstream of Bridge 20.	Carried alternate road crossing; destroyed during Korean War.	Probably wooden.

Area	Identification	Location	Function and Status	Construction
Sangsambong (42°41'N-129°47'E) Serviceable rail bridge provides major link between NE Korean rail net and E Manchurian system in Yen-chi region; less significant as road bridge.	22. Sangsambong/ K'ai-shan-t'un Combination Rail and Road Bridge	Between Sangsambong and K'ai-shan-t'un.	Carries single-track railroad and 9'-wide road (on downstream side); confirmed October 1955.	Completed 1927; length 980'; width 25'; 14 steel deck plate girder spans (at 70'); 13 reinforced concrete piers (at 25' x 5'10") 25' above mean water level; piers on rock foundation 15' below mean water level; 2 reinforced concrete abutments
	23. Sangsambong/ K'ai-shan-t'un Road Bridge (probably destroyed)	3,000' downstream of Bridge 22; between W Sangsambong and N K'ai-shan-t'un.	Carried main road; probably destroyed during Korean War (before July 1951); not repaired as of October 1955.	Length est. 500' with overwater distance of 350'.
Namyang (42°57'N-129°52'E) 2 serviceable bridges are probably most important rail and road connections between NE Korea and Yen-chi region.	24. Namyang-T'u-men Combination Rail and Road Bridge	Between Namyang and T'u-men.	Carries single-track railroad and 9'-wide footwalk (on downstream side); condition good 1945; footwalk probably utilized as highway during WW II; existence confirmed October 1955.	Completed c. 1934; length 1,500'; 21 steel deck plate girder spans (at 66'); concrete piers and abutments; actually 2 parallel bridges on common piers.
	25. Namyang/T'u-men Road Bridge	2,000' downstream of Bridge 24; between Namyang and T'u-men.	Carries 2-lane primary highway; condition good 1945; serviceable April 1955.	Completed before 1945; length 1,600'; width 25'; reinforced concrete; 11' above water; reinforced concrete piers at 33' intervals (at 11' height); elliptical reinforced concrete pier bases (at 3' height); reinforced concrete bridge heads; iron bar bridge frames; wooden board bridge floor; concrete abutments (at 33' width, 10' height, 3' thickness).

Area	Identification	Location	Function and Status	Construction
Onsong (42°57'N-129°59'E) Serviceable road bridge connects principal highway of NE Korea with Hun-ch'un region	26. Onsong/ Leng-shui-ch'uan-tzu Road Bridge	1.2 miles NE of Onsong; between Onsong and Leng-shui-ch'uan-tzu.	Carries primary highway; probably single-lane; appeared on 1954 map.	Length est. 1,500' with overwater distance of 1,000'.
Hunyung (45°53'N-130°14'E) 2 serviceable bridges provide principal rail and road connections between NE Korea and Hun-ch'un region.	27. Hunyung/ Shang-shuai-wan-tzu Road Bridge	Between Hunyung and Shang-shuai-wan-tzu.	Carries 2-lane highway; confirmed April 1953; appeared on 1954 map.	Completed 1927; length est. 2,000'; width est. 20'; 14 steel deck plate girder spans; solid masonry piles.
	28. Hunyung/ Shang-shuai-wan-tzu Rail Bridge	850' downstream of Bridge 27; between Hunyung and Shang-shuai-wan-tzu.	Carries single-track railroad plus narrow catwalk on either side; confirmed April 1953; appeared on 1954 map.	Completed 1935; length est. 2,000 with overwater distance of 500'.
Kyongwon Station (42°49'N-130°12'E) Serviceable bridge links road net of NE Korea to Hun-ch'un region.	29. Kyongwon/Yudado Road Bridge	1.6 miles SE of Kyongwon Station; between Kyongwon Station and Yudado.	Carries highway; probably impassable at high water; existence confirmed June 1952; appeared on 1954 map.	Completed by USSR in 1948; length 2,625'; steel.
	30. Kyongwon/Yudado Road Bridge: Detour (unconfirmed)	Vicinity of Bridge 29.	Carries detour for Bridge 29; probably impassable at high water; reported June 1952.	Length 604'; wooden.
Kyonghung (42°35'N-130°30'E) Serviceable bridge links Aoji-dong industrial area with Hun-ch'un.	31. Kyonghung/ Pa-ku-t'un Road Bridge	1 mile SE of Kyonghung; between Kyonghung and Pa-ku-t'un.	Carries highway; appeared on 1954 map.	Length est. 1,500' with overwater distance of 1,200'; possibly concrete.

Tumen River Crossings: USSR

Area	Identification	Location	Function and Status	Construction
Yonghyon-dong (42°24'N-130°38'E) Serviceable bridge provides only direct rail connection between NK and USSR.	32. Yonghyon-dong/ Nagornaya High-level Rail Bridge	4,000' E of Yonghyon-dong; between Yonghyon-dong and Nagornaya.	Carries single-track railroad, probably of broad-gauge (5'0"); 3'-wide wooden footwalk on either side; serviceable November 1956.	Probably completed during Korean War (before November 1951); length est. 2,300'; width est. 28'; steel; 28 spans; concrete piers.
	33. Yonghyon-dong/ Nagornaya Low-level Railroad Bridge (destroyed)	700' downstream of Bridge 32; between Yonghyon-dong and Nagornaya.	Carried single-track railroad; gauge unknown; destroyed or abandoned as unserviceable during Korean War; dismantled by April 1953 except for approaches.	Probably built 1946-50; low-level bridge.
	34. Yonghyon-dong/ Nagornaya Road Bridge (destroyed)	1,600' downstream of Bridge 32.	Carried road; unserviceable November 1951; dismantled 1952.	Probably built 1946-50; low-level bridge.

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